Billing Code: 5001-06

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal Nos. 13-67]

36(b)(1) Arms Sales Notification

AGENCY: Defense Security Cooperation Agency, Department of Defense.

ACTION: Notice.

SUMMARY: The Department of Defense is publishing the unclassified text of a section 36(b)(1) arms sales notification. This is published to fulfill the requirements of section 155 of Public Law 104-164, dated July 21, 1996.

FOR FURTHER INFORMATION CONTACT: Ms. B. English, DSCA/DBO/CFM, (703) 601-3740.

The following is a copy of a letter to the Speaker of the House of Representatives, Transmittals 13-67 with attached transmittal, policy justification, and Sensitivity of Technology.

Dated: January 15, 2014.

Aaron Siegel,
Alternate OSD Federal Register Liaison Officer,
Department of Defense.

DEFENSE SECURITY COOPERATION AGENCY
201 12TH STREET SOUTH, STE 203
ARLINGTON, VA 22202-5408

JAN 13 2014

The Honorable John A. Boehner
Speaker of the House
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Speaker:

Pursuant to the reporting requirements of Section 36(b)(1) of the Arms Export Control Act, as amended, we are forwarding herewith Transmittal No. 13-67, concerning the Department of the Air Force's proposed Letter(s) of Offer and Acceptance to Singapore for defense articles and services estimated to cost $2.430 billion. After this letter is delivered to your office, we plan to issue a press statement to notify the public of this proposed sale.

Sincerely,

J. W. Rixey
Vice Admiral, USN
Director

Enclosures:
1. Transmittal
2. Policy Justification
3. Sensitivity of Technology

Transmittal No. 13-67

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act, as amended

(i) Prospective Purchaser: Singapore

(ii) Estimated Value:

Major Defense Equipment*	$0.33 billion
Other	$2.10 billion
TOTAL	$2.43 billion

(iii) Description and Quantities of Articles or Services under Consideration for Purchase: Singapore has requested a possible sale for the upgrade of 60 F-16C/D/D+ aircraft. The upgrades will address reliability, supportability, and combat effectiveness concerns associated with its aging F-16 fleet. The items being procured in this proposed sale include:

70 Active Electronically Scanned Array Radars (AESA)
70 LN-260 Embedded Global Positioning System/Inertial Navigation Systems (GPS/INS)
70 Joint Helmet Mounted Cueing Systems (JHMCS)
70 APX-125 Advanced Identification Friend or Foe (IFF) Combined Interrogator Transponders
3 AIM-9X Block II Captive Air Training Missiles
3 TGM-65G Maverick Missiles for testing and integration
4 GBU-50 Guided Bomb Units (GBU) for testing and integration
5 GBU-38 Joint Direct Attack Munitions for testing and integration
3 CBU-105 (D-4)/B Sensor Fused Weapons for testing and integration
1 AIS Interface Test Adapters for software updates
1 Classified Computer Program Identification Numbers (CPINs)
4 GBU-49 Enhanced Paveways for testing and integration
2 DSU-38 Laser Seekers for testing and integration
6 GBU-12 Paveway II, Guidance Control Units

Also included are Modular Mission Computers, a software maintenance facility, cockpit multifunction displays, radios, secure communications, video recorders; a Joint Mission Planning System (JMPS); maintenance, repair and return, aircraft and ground support equipment, spare and repair parts, tool and test equipment; engine support equipment, publications and technical documentation; aerial refueling support, aircraft ferry services, flight test; personnel training and training equipment, site surveys, construction, U.S. Government and contractor engineering, technical, and logistics support services, and other related elements of logistics and program support.

* as defined in Section 47(6) of the Arms Export Control Act.

(iv) Military Department: Air Force (QAW)

(v) Prior Related Cases, if any: None

(vi) Sales Commission, Fee, etc., Paid, Offered, or Agreed to be Paid: None

(vii) Sensitivity of Technology Contained in the Defense Article or Defense Services Proposed to be Sold: See Attached Annex

(viii) Date Report Delivered to Congress: 13 January 2014

POLICY JUSTIFICATION

Singapore – F-16 Block 52 Upgrade

The Government of Singapore has requested an upgrade of 60 F-16C/D/D+ aircraft. The upgrades will address reliability, supportability, and combat effectiveness concerns associated with its aging F-16 fleet. The items being procured in this proposed sale include:

70 Active Electronically Scanned Array Radars (AESA)
70 LN-260 Embedded Global Positioning System/Inertial Navigation Systems (GPS/INS)
70 Joint Helmet Mounted Cueing Systems (JHMCS)
70 APX-125 Advanced Identification Friend or Foe (IFF) Combined Interrogator Transponders
3 AIM-9X Block II Captive Air Training Missiles
3 TGM-65G Maverick Missiles for testing and integration
4 GBU-50 Guided Bomb Units (GBU) for testing and integration
5 GBU-38 Joint Direct Attack Munitions for testing and integration
3 CBU-105 (D-4)/B Sensor Fused Weapons for testing and integration
1 AIS Interface Test Adapters for software updates
1 Classified Computer Program Identification Numbers (CPINs)
4 GBU-49 Enhanced Paveways for testing and integration
2 DSU-38 Laser Seekers for testing and integration
6 GBU-12 Paveway II, Guidance Control Units

Also included are Modular Mission Computers, a software maintenance facility, cockpit multifunction displays, radios, secure communications, video recorders; a Joint Mission Planning System (JMPS); maintenance, repair and return, aircraft and ground support equipment, spare and repair parts, tool and test equipment; engine support equipment, publications and technical documentation; aerial refueling support, aircraft ferry services, flight test; personnel training and training equipment, site surveys, construction, U.S. Government and contractor engineering, technical, and logistics support services, and other related elements of logistics and program support. The estimated cost is $2.43 billion.

This proposed sale will contribute to the foreign policy and national security of the United States by increasing the ability of the Republic of Singapore to contribute to regional security. The proposed sale will improve the security of a strategic partner which has been, and continues to be, an important force for political stability and economic progress in the Asia Pacific region.

The proposed upgrade will improve both the capabilities and the reliability of the Republic of Singapore Air Force's (RSAF) aging fleet of F-16s. The improved

capability, survivability, and reliability of newly upgraded F-16s will enhance the RSAFs ability to defend its borders and contribute to coalition operations with other allied forces. The RSAF will have no difficulty absorbing this additional equipment and support into its armed forces.

The proposed sale of this equipment and support to Singapore will not alter the basic military balance in the region.

The principal contractors will be:

The Lockheed Martin Aeronautics Company	Fort Worth, Texas.
BAE Advanced Systems	Greenland, New York
Boeing Integrated Defense Systems	St Louis, Missouri
ITT Defense Electronics and Services	McLean, Virginia
ITT Integrated Structures	North Amityville, New York
ITT Night Vision	Roanoke, Virginia
L3 Communications	Arlington, Texas
Lockheed Martin Missile and Fire Control	Dallas, Texas
Lockheed Martin Simulation, Training, and Support	Fort Worth, Texas
Northrop-Grumman Electro-Optical Systems	Garland, Texas
Northrop-Grumman Electronic Systems	Baltimore, Maryland
The Raytheon Company	Goleta, California
Raytheon Missile Systems	Tucson, Arizona

There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will not require the assignment of any additional U.S. Government or contractor representatives to Singapore.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

Transmittal No. 13-67

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act, as amended

Annex
Item No. vii

(vii) Sensitivity of Technology:

1. The Modular Mission Computer (MMC) - The Singapore Air Force (RSAF) F-16 upgrade program request includes the MMC 7000-AHC operational flight program (OFP) software that is compatible with the following approved systems and weapons: LITENING/Sniper Targeting Pods, ALQ-131 Block II Electronic Warfare Pod, AIM-120 Advanced Medium Range Air-to-Air Missile, AIM-9L/M Sidewinder Missile, and AGM-84 Block I/II Harm Missile. The highest MMC OFP classification level is Secret.

2. The Scalable Agile Beam Radar is the radar specifically designed as a retrofit for existing F-16s. This model contains the latest digital technology available in an electronically scanned antenna, including higher processor power, higher transmission power, more sensitive receiver electronics, and Synthetic Aperture Radar (SAR), which creates higher-resolution ground maps from a much greater distance than previous versions of the F-16 radar. The upgrade features a 50% increase in the detection range of air targets, a ten-fold increase in processing speed and memory, as well as significant improvements in all modes, jam resistance and false alarm rates. Complete hardware is classified Confidential; major components and subsystems are classified Confidential; software is classified Secret; and technical data and documentation are classified up to Secret.

3. The LN-260 Embedded Global Positioning System-Inertial Navigation System (GPS-INS) is a sensor that combines GPS and inertial sensor inputs to provide accurate location information for navigation and targeting. The EGI LN-260 is Unclassified. The GPS crypto variable keys needed for highest GPS accuracy are classified up to Secret.

4. The AN/APX-125 Advanced Identification Friend or Foe (AIFF) is a system capable of transmitting and interrogating Mode 4 and/or 5. It is Unclassified unless/until Mode 4 and/or Mode 4 operational evaluator parameters are loaded into the equipment. Classified elements of the IFF system include software object code, operating characteristics, parameters, and technical data. Mode 4 and Mode 5 anti-jam performance specifications/data, software source code, algorithms, and tempest plans or reports will not be offered, released, discussed or demonstrated.

5. The Joint Helmet Mounted Cueing System (JHMCS) is a modified HGU-55/P helmet that incorporates a visor-projected Heads-Up Display (HUD) to cue weapons and aircraft sensors to air and ground targets. In close combat, a pilot must currently align the aircraft to shoot at a target. The JHMCS allows the pilot to simply look at a target to shoot. This system projects visual targeting and aircraft performance information on the back of the helmet's visor, enabling the pilot to monitor this information without interrupting his field of view through the cockpit canopy. The system uses a magnetic transmitter unit fixed to the pilot's seat and a magnetic field probe mounted on the helmet to define helmet pointing positioning. A Helmet Vehicle Interface (HVI) interacts with the aircraft system bus to provide signal generation for the helmet display. This provides significant improvement for close combat targeting and engagement. Hardware is Unclassified; technical data and documents are classified up to Secret.

6. The AIM-9X SIDEWINDER is an air-to-air guided missile that employs a passive infrared (IR) target acquisition system that features digital technology and micro-miniature solid-state electronics. The AIM-9X AUR is Confidential, major components and subsystems range from Unclassified to Confidential, and technical data and other documentation are classified up to Secret.

7. The CBU-105D/B Sensor Fused Weapon (SFW) is an advanced 1,000-pound class cluster bomb munition containing sensor fused sub-munitions that are designed to attack and defeat a wide range of moving or stationary land and maritime threats with minimal collateral damage. The SFW is currently the only combat proven, clean battle weapon that meets U.S. law regarding cluster munition safety requirements. In addition to added safety, no other munition is as versatile and effective against so many different target types.

a. Major components include the SUU-66 Tactical Munitions Dispenser (TMD), ten (10) BLU-108 sub-munitions, each with four (4) “hockey puck” shaped skeet infrared sensing projectiles for a total of forty (40) warheads. The munition will be delivered in its All-Up-Round (AUR) configuration. This configuration is Unclassified. No access to the CBU-105 in other than its AUR configuration is anticipated. Although very difficult to open, access to the sub-munitions, and technical data are classified up to Secret.

b. Maximizing the CBU-105 operational effectiveness and combat survivability depends largely upon training, tactics & procedures employed. Information revealing test boundaries, operational envelope and release points, the probability of destroying targets, number of targets destroyed per pass, the terminal impact conditions, the operational flight programming, and data on the infra-red frequency and sensor thresholds is classified up to Secret. Information revealing counter-measures and counter-counter measures are classified Secret.

8. The GBU-38 Joint Direct Attack Munition (JDAM) is a 500lb weapon with a guidance tail kit that converts unguided free-fall bombs into accurate, adverse weather "smart" munitions. With the addition of a new tail section that contains an inertial navigational system and a global positioning system guidance control unit, JDAM improves the accuracy of unguided, general-purpose bombs in any weather condition. The JDAM can be launched from very low to very high altitudes in a dive, toss and loft, or in straight and level flight with an on-axis or off-axis delivery. The JDAM enables multiple weapons to be directed against single or multiple targets on a single pass. The JDAM AUR (All Up Round) and all of its components are Unclassified, technical data for JDAM is classified up to Secret.

9. The GBU-49 and GBU-50 are 500lbs/2000lbs dual mode laser-guided and GPS guided ammunitions respectively. Information revealing target designation tactics and associated aircraft maneuvers, the probability of destroying specific/peculiar targets, vulnerabilities regarding countermeasures and the electromagnetic environment are classified Secret. Information revealing the probability of destroying common/unspecified targets, the number of simultaneous lasers the laser seeker head can discriminate, and data on the radar/infra-red frequency are classified Confidential.

10. The TGM-65G Maverick missile is the inert/training version of an air-to-ground missile. The hardware is Unclassified, but has an overall classification of Secret. The Secret aspects of the Maverick system are tactics, information revealing its vulnerability to countermeasures, and counter-countermeasures. Manuals and technical documents that are necessary for operational use and organizational maintenance have portions that are classified Confidential. Performance and operating logic of the countermeasures circuits are Secret.

11. If a technologically advanced country were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures that might reduce weapon system effectiveness or be used in the development of a system with similar capabilities.

12. A determination has been made that the recipient country can provide the same degree of protection for the sensitive technology being released as the US Government. This sale is necessary in furtherance of the US foreign policy and national security objectives outlined in the Policy Justification.

13. All defense articles and services listed in this transmittal have been authorized for release and export to the Government of Singapore.

[FR Doc. 2014-01062 Filed 01/17/2014 at 8:45 am; Publication Date: 01/21/2014]